



# ENDANGERED SPECIES TECHNICAL BULLETIN

Department of the Interior • U.S. Fish and Wildlife Service • Endangered Species Program, Washington, D.C. 20240



Photo by Dick Randall, Defenders of Wildlife

*Possible overharvest of bobcat is being investigated by ESSA*

## ESSA Setting Wildlife Trade Policies

The Endangered Species Scientific Authority (ESSA), a new agency established by Presidential order to formulate biological policy for U.S. import and export of imperiled wildlife and plants, became fully operational in July with the appointment of an executive secretary and publication of an interim charter.

Under terms of the charter (F.R. 7/11/77), ESSA is developing biological criteria on a priority basis for all species listed under Appendix I and II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. These standards will be used by ESSA to evaluate import and export applications filed with the Fish and Wildlife Service's Federal Wildlife Permit Office (WPO) to ensure that Convention species will not be jeopardized by international trade activity.

Comments on the proposed charter are due by September 9.

Dr. William Y. Brown, 29, has been selected as the new executive secretary. A former consultant to the Fish and Wildlife Service and professor at Mount Holyoke College, Brown holds a doctorate in zoology from the University

of Hawaii and a J.D. degree from Harvard Law School.

Although funded by the Department of the Interior, ESSA will function under its charter as a semiautonomous interagency organization, with its seven agency representatives taking action by majority vote.

### ESSA Members

The new agency is composed of the following members: John Spinks (chairman), chief of the Fish and Wildlife Service's Office of Endangered Species; Dr. Robert L. Williamson, Department of Agriculture; Dr. Joe R. Held, Department of Health, Education and Welfare; Dr. R. V. Miller, Department of Commerce; William Sievers, National Science Foundation; Dr. Lee M. Talbot, Council on Environmental Quality; and Dr. David Challinor, Smithsonian Institution.

### ESSA Responsibilities

Under the rules of the Convention, the Federal Wildlife Permit Office (WPO) has to determine that certain  
(continued on page 2)

## Plant Regulations Issued, Clearing Way for Listings

Regulations governing interstate and foreign commerce in Endangered and Threatened plants, effective July 25, 1977, have been issued by the Service (F.R. 6/24/77).

The final rulemaking clears the way for the Service to begin a series of listings on the 1,871 U.S. and foreign plants that have been proposed for Endangered status.

The new regulations establish a flexible permit system to allow legitimate commerce to continue in jeopardized plant species while protecting those plants remaining in the wild. Under the Endangered Species Act of 1973, it is illegal—except by permit—to import or export, or to sell, offer for sale, deliver, receive, carry, transport, or ship in interstate or foreign commerce, listed plants. The regulations provide for two categories of permits:

1. *Endangered plants*: Permits will be issued for scientific purposes or to enhance the propagation or survival of these species. In some instances, permits may be issued for up to a year to relieve economic hardship.

2. *Threatened plants*: Permits may be issued for scientific purposes, for enhancement of propagation or survival of the species, economic hardship,  
(continued on page 5)

### Permit Workshops

The Federal Wildlife Permit Office has been conducting a series of workshops around the country this summer to acquaint the public with Fish and Wildlife Service regulations and to demonstrate how to fill out applications for Endangered species permits.

The remainder of the schedule calls for workshops to be held in the following cities: Chicago—September 9; New York City—September 28; and Atlanta—October 5 (tentative). For further information contact: Inez Connor (202) 634-1496.



requirements are met before issuing permits allowing trade in Appendix I and II species. The importation and exportation of Appendix I species, all threatened with extinction and actually or potentially affected by trade, will be highly restricted. Permits will be issued for trade in these species only under exceptional circumstances. Permits must also be issued for the exportation of Appendix II species, which are not now threatened with extinction but may become so unless their trade is strictly regulated.

Prior to permit issuance for trade in Appendix I and II species, ESSA must advise WPO of certain findings:

- That export will not be detrimental to the survival of the species
- That introduction of listed specimens from the sea will not be detrimental to survival of the species and, for Appendix I, that the recipient is suitably equipped to house and care for living specimens
- That import of Appendix I specimens from other countries will be for purposes that are not detrimental to the survival of the species, and that living specimens will be suitably housed and cared for

#### U.S. Fish and Wildlife Service Washington, D.C. 20240

Lynn A. Greenwalt, *Director*  
(202-343-4717)

Keith M. Schreiner,  
*Associate Director and Endangered  
Species Program Manager*  
(202-343-4646)

Harold J. O'Connor,  
*Deputy Associate Director*  
(202-343-4646)

John Spinks, *Chief,  
Office of Endangered Species*  
(202-343-5687)

Richard Parsons, *Chief,  
Federal Wildlife Permit Office*  
(202-634-1496)

TECHNICAL BULLETIN STAFF:  
Dona Finnley, *Editor*  
(202-343-5687)

Clare Senecal, *Assistant Editor*  
(202-343-5687)

#### Regional Offices

Region 1, P.O. Box 3737, Portland OR 97208 (503-234-3361): R. Kahler Martinson, *Regional Director*; Edward B. Chamberlain, *Assistant Regional Director*; David B. Marshall, *Endangered Species Specialist*.

Region 2, P.O. Box 1306, Albuquerque, NM 87103 (505-766-2321): W. O. Nelson,

#### Need for Biological Criteria

Executive Secretary William Brown says that the development of sound biological criteria covering survival and housing and care requirements for each protected species "are essential if the permit applicant and the general public are to understand how applications are evaluated and if deficiencies in this process are to be corrected." Initially, ESSA will be establishing its own criteria concurrently with evaluating permit applications. But Brown acknowledges that devising truly sound criteria will require more information on Convention species than is currently available.

Accordingly, ESSA is soliciting recommended criteria for its findings from the field, together with biological and trade information to support them. The proposed interim charter suggests a form to follow in supplying the needed information, which will be welcome on a continuing basis.

#### Help From States Sought

Brown is seeking guidance from the States to learn what impact trade will have on species in the wild. He also is looking for assistance from the States to develop systematic tagging of pelts to certify State of origin.

*Regional Director*; Robert F. Stephen, *Assistant Regional Director*; Jack B. Woody, *Endangered Species Specialist*. Region 3, Federal Bldg. Fort Snelling, Twin Cities, MN 55111 (612-725-3500); Jack Hemphill, *Regional Director*; Delbert H. Rasmussen, *Assistant Regional Director*; James M. Engel, *Endangered Species Specialist*.

Region 4, 17 Executive Park Drive, NE, Atlanta, GA 30323 (404-526-4671): Kenneth E. Black, *Regional Director*; Harold W. Benson, *Assistant Regional Director*; Alex B. Montgomery, *Endangered Species Specialist*.

Region 5, Suite 700, One Gateway Center, Newton Corner MA 02158 (617-965-5100): Howard Larsen, *Regional Director*; James Shaw, *Assistant Regional Director*; Paul Nickerson, *Endangered Species Specialist*.

Region 6, P.O. Box 25486, Denver Federal Center, Denver CO 80225 (303-234-2209): Harvey Willoughby, *Regional Director*; Charles E. Lane, *Asst. Regional Director*; John R. Davis, *Endangered Species Specialist*.

Alaska Area, 813 D Street, Anchorage, AK 99501 (907-265-4864): Gordon W. Watson, *Area Director*; Henry A. Hansen, *Endangered Species Specialist*.

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Currently, ESSA is reviewing data to determine the status of the bobcat (*Lynx rufus*), an Appendix II species that may be declining and overharvested in many States. Unless evidence is presented to the contrary, ESSA may bar further export of bobcat pelts taken in 1977-78.

A similar evaluation is being made of the river otter (*Lutra canadensis*), the lynx (*Lynx canadensis*), and the American ginseng plant (*Panax quinquefolius*), also listed on Appendix II. Brown says, "It's important to remember that these species can be exported only if ESSA is able to find that it won't hinder their survival—and has data to back up that finding."

#### Imports a Concern

Besides protecting U.S. species from overexploitation, ESSA must oversee the import of Appendix I species from other nations, even though the scientific authorities of those countries have given their approval for export. What concerns Brown in such cases is the possibility that such a demand could be created in this country for a foreign species that it could become rapidly depleted in its native country.

In this connection, Brown is offering assistance to other countries that are party to the Convention to help set up their scientific authorities.

In making decisions on commercial export, Brown says: "I think our top priority has to be control over U.S. exports. If we can't do it, how can we ask other countries to take care of their wildlife?"

#### Endangered Plants Book

The New York Botanical Garden has published the proceedings of its Bicentennial symposium, held May 11-13, 1976, on the status of Threatened and Endangered species of plants throughout the Americas. Titled *Extinction is Forever*, the volume describes a number of steps that could be taken by professional and concerned laymen to solve the problems facing many plant species and their ecosystems, including a proposal to "buy time" for determining less destructive development of the Amazon's tropical forests.

The symposium was sponsored by the National Science Foundation, The Organization of American States, The World Wildlife Fund, and The Achelis Foundation.

Publication of the 437-page volume was financially supported by the Fish and Wildlife Service and the National Park Service. Copies are available for \$20 each from Publications Department, New York Botanical Garden, Bronx Park, N.Y. 10458.



## Plants (continued from page 1)

botanical or horticultural exhibition, educational purposes, or other activities. Seeds from cultivation are exempt.

### Permit Criteria

Application requirements and the conditions and duration of permits will vary according to whether the specimens involved are wild plants, seeds or cultivated plants, or herbarium (museum) specimens.

Generally, the amount of information required to obtain a permit for wild plants is greater than for seeds, cultivated plants, or herbarium specimens. For the latter three classes, the regulations provide minimal controls to ensure that permitted activities will not adversely affect the status of plants in the wild.

### Look-Alike Provision

The regulations simplify the language of the similarity-of-appearance provision and extend it to apply to plants. Under the provision, non-jeopardized wildlife and plants may be treated as Endangered or Threatened if the Service determines that such treatment would enhance the protection of an Endangered or Threatened species. In such an event, the non-Endangered species would be subject to the same permit restrictions as its "look-alike."

### Legal Background

Unlike wildlife species, which by law are under the control of States or the Federal government, plant species by legal tradition usually belong to the landowner. Accordingly, the Endangered Species Act of 1973 does not prohibit the "taking" of any Endangered or Threatened plant by a private individual. Nor does the act affect the intrastate sale or shipment of protected plants. Some States, however, do regulate intrastate and interstate commerce in their native plants.

The Federal regulations, which were proposed on June 7, 1976, were developed in accordance with stipulations in the Federal law calling for the protection of Endangered plants. The 1973 act directed the Smithsonian Institution to review the status of plants that were then thought to be, or that could become, Endangered or Threatened. This review resulted in a Service proposal (F.R. 6/16/76) to list 1,783 U.S. plants as Endangered species.

Earlier, the Service had proposed that the 88 foreign plants listed under Appendix I to the Convention on International Trade in Endangered Species of Wild Fauna and Flora be protected as Endangered species (F.R. 9/26/75).

Authority for promulgation of these new regulations on interstate and foreign commerce in imperiled plants is provided for in sections 4 and 9 of the Endangered Species Act. In addition, protection is also provided under section 7 of the law, which mandates all Federal agencies to ensure that any actions authorized, funded or carried out by them do not jeopardize the continued existence of an Endangered or Threatened species, or result in the destruction or adverse modification of its Critical Habitat. Thus, a Federal "taking" that jeopardizes the plant species is prohibited.

### Response to Comments

The final regulations embody a number of changes suggested by individuals and organizations commenting on the proposed regulations. More than 100 comments were received, as well as the opinions and concerns expressed by witnesses at a series of four public hearings (see the September 1976 issue of the BULLETIN).

In reviewing the comments, the Service found the major concerns were that the proposed regulations did not adequately reflect the difference between animal and plant biology, and that their adoption would impose a hardship on businesses dealing primarily in cultivated specimens of Endangered and Threatened plants.

The pertinent significant difference is the generally greater ease of plant reproduction, both naturally and artificially. In particular, seeds are often produced in considerable numbers beyond the immediate needs of the species or its ecosystem. Accordingly, the regulations were modified to provide less restrictive requirements for obtaining a permit involving only seeds of Endangered plants, with no permit being required for transactions involving the seeds of cultivated Threatened species (if "cultivated origin" is indicated on the seed packet).

The regulations recognize that the horticultural field offers a wide range of techniques for germinating seeds, cultivating seedlings, and maintaining mature plants. In addition, many techniques are now available for artificially propagating plants (such as layering, cuttings, grafting, and tissue culture) that can make possible the production of hundreds of uniform plants from a single specimen. Such activities generally have no adverse effect on the survival of species in the wild—and, in fact, in some cases serve as an adequate genetic reservoir for reintroduction to the wild of species needing restorative management.

Consequently, the final regulations provide for only minimal monitoring of horticultural activities. The application

requirements are also minimal when dealing strictly with herbarium specimens. This approach parallels the regulations in the Convention, which exempt artificially propagated plants and herbarium specimens from the usual permit requirements by more readily obtained certificates, and do not normally regulate seeds of Appendix II and III plants.

To obtain copies of the new regulations or to apply for a permit, contact the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (telephone: 202/634-1496).

### New Publications

Reports are now available describing rare and endangered plants in the States of Michigan and Kansas.

The Technical Advisory Committee for Plants of the Michigan Department of Natural Resources' Program on Endangered and Threatened Species has published a list of 328 taxa of pteridophytes, monocotyledons, and dicotyledons, of which 16 are designated as endangered, 197 threatened, 90 rare, and 25 probably extinct. The list, reprinted from an article in the *Michigan Botanist* and entitled "Endangered, Threatened, and Rare Vascular Plants in Michigan," may be obtained from Dr. Sylvia M. Taylor, Wildlife Division, Department of Natural Resources, Box 30028, Lansing, Mich. 48909.

*Rare Native Vascular Plants of Kansas*, by Ronald L. McGregor, has been published by the State Biological Survey of Kansas. For copies write to State Biological Survey of Kansas, 2045 Avenue A, Campus West, Lawrence, Kansas 66044.

The *Proceedings of the Conference on Endangered Plants in the Southwest*, sponsored by the Forest Service, U.S. Department of Agriculture, are now available. For copies, write: Dave Olson, U.S.D.A. Forest Service, Southeastern Forest Experimentation Station, Asheville, N.C.

A new bi-monthly newsletter devoted to native plant conservation, *Fleuritage*, is available for \$3.00 a year from the New England Wild Flower Society, Inc., Hemenway Rd., Framingham, Mass. 01701.

### Reference Note

All Service notices and proposed and final rulemakings are published in the *Federal Register* in full detail. The parenthetical references given in the BULLETIN—e.g., (F.R. 5/3/77)—list the month, day, and year that the notice or rulemaking was published in the *Federal Register*.

## Pending Rulemakings, Notices of Review

The Service expects to issue rulemakings and notices of review on the subjects listed below during the next 90 days. The status or action being considered for each final and proposed rulemaking is given in parentheses.

The decision on each final rulemaking will depend upon completion of the analysis of comments received and/or new data made available, with the understanding that such analysis may result in modification of the content or timing of the original proposal, or the rendering of a negative decision.

### Pending Final Rulemakings

- Bald eagle (modification of status in Lower 48 States)
- Leopard darter (Threatened and Critical Habitat)
- Slackwater darter, Alabama cavefish, spotfin chub, slender chub, and yellowfin madtom (Threatened and Critical Habitat)
- 26 snails (Endangered and Threatened)
- 6 butterflies (Critical Habitat)
- Contra Costa wallflower and Antioch Dunes evening primrose (Critical Habitat)
- Giant anole (Endangered)
- San Clemente Island species (Endangered)
- 14 plants (Endangered and Threatened)
- Florida Everglade kite (Critical Habitat)
- Peregrine falcon, California (Critical Habitat)
- Palila, Hawaii (Critical Habitat)
- Cape Sable sparrow, Florida (Critical Habitat)
- Dusky seaside sparrow, Florida (Critical Habitat)
- Morro Bay kangaroo rat, California (Critical Habitat)
- Mississippi sandhill crane (Critical Habitat)

## BOX SCORE OF SPECIES LISTINGS

Category	Number of Endangered Species			Number of Threatened Species		
	U.S.	Foreign	Total	U.S.	Foreign	Total
<b>Mammals</b> .....	36	227	263	2	17	19
<b>Birds</b> .....	67	144	211	1		1
<b>Reptiles</b> .....	9	46	55	1		1
<b>Amphibians</b> .....	4	9	13	1		1
<b>Fishes</b> .....	30	10	40	4		4
<b>Snails</b> .....		1	1			
<b>Clams</b> .....	22	2	24			
<b>Crustaceans</b> .....						
<b>Insects</b> .....	6		6	2		2
<b>Plants</b> .....						
<b>Total</b> .....	174	439	613	11	17	28

Number of species currently proposed: 98 animals  
1850 plants (approx.)

Number of Critical Habitats proposed: 46  
Number of Critical Habitats listed: 7  
Number of Recovery Teams appointed: 58  
Number of Recovery Plans approved: 8  
Number of Cooperative Agreements signed with States: 18

June 30, 1977

### Pending Proposed Rulemakings

- Ozark big-eared bat (Endangered)
- Virginia big-eared bat (Endangered)
- African elephant (similarity of appearance to Asian elephant)
- 11 beetles (Endangered and Threatened)
- Puerto Rican whip-poor-will (Critical Habitat)
- Laysan duck (Critical Habitat)
- 2 harvestmen and 1 snail (Endangered and Threatened)

### Pending Notices of Review

- Status of bobcat and lynx
- Status of river otter

### We Still Need Your Help

Your response to our call for information and suggestions has been most encouraging and useful, and it has played an important role in making the BULLETIN a success. Consequently, we invite you to continue sending us reports on your latest research and management activities (accompanying illustrations are also most welcome), as well as your ideas and comments about specific topics and the BULLETIN as a whole.



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## Osprey, Peregrine Falcon Gain in New Jersey's ES Program

The osprey (*Pandion haliaeetus*) is making an impressive comeback along New Jersey's coast, helped along by manmade nesting structures, eggs transplanted from Maryland, and a decline in DDT levels.

The American peregrine falcon (*Falco peregrinus*) also is on its way back. This spring, two males and a female—among the first four captive-bred falcons hacked to the wild in 1975-76—returned to their tower nesting sites in New Jersey.

The osprey and peregrine falcon projects head a list of a dozen endangered species research studies being conducted by New Jersey's Division of Fish, Game and Shellfisheries, under the direction of Russell A. Cookingham, within the State Department of Environmental Protection.

Paul D. (Pete) McLain, deputy director of the division, is in charge of its Endangered and Nongame Species Project, and is assisted by a nongame zoologist and a nongame biologist.

The division also includes a Nongame Section, which conducts investigations on nongame species and surveys colonial nesting birds, and an Exotic Wildlife Section to regulate commercial wildlife activities and enforce endangered species regulations.

### First Federal Pact

New Jersey's relatively small but well-rounded program originated as the result of a 1973 law enacted by the State Legislature. The law qualified New Jersey to become the first state to submit a cooperative agreement to the U.S. Fish and Wildlife Service and receive aid for Endangered species. Most of the 19 species listed as endangered by the State also are listed by the Federal Endangered Species Program.

The State's Endangered and Nongame Species Project for FY 1978 is budgeted at \$73,000, including a \$25,000 Federal Endangered Species Program grant. Since 1974, the annual budget has ranged between \$100,000 and \$25,000. In FY 1977, following a State budget cut, the program was supported by \$25,000 appropriated from the sale of hunting and fishing licenses and \$25,000 in Federal Aid in Wildlife Restoration (PR) funds.

### Osprey Project

One of the first projects launched in 1974 was an aerial inventory of ospreys. This demonstrated that the once-plentiful fishhawk was in serious trouble. Only 50 active nests were located, whereas more than 500 had existed prior to the 1950's.



New Jersey Department of Environmental Protection photo

These young ospreys were hatched on manmade tower in New Jersey; the eggs were transplanted from osprey nests in Maryland to help rebuild the New Jersey population

Pete McLain attributes the sharp decline to the heavy use of pesticides for mosquito control along the coastal wetlands in the 1950's and 1960's. Feeding extensively on fish that had accumulated DDT and other pesticides, the ospreys absorbed chlorinated hydrocarbons to the point where they became infertile or laid thin-shelled eggs that would break during incubation.

With the cooperation of the Maryland Department of Natural Resources Nongame Project, arrangements were made to transplant osprey eggs from the Chesapeake Bay and the Potomac River area into nests in New Jersey. A total of 16 eggs were placed in five active nests in 1974; 12 of these eggs hatched.

During the study period (1974-77), 41 young have fledged. Three pairs have returned to nest and have raised young. McLain expects more returns in two years' time, when more birds have sexually matured.

Including birds fledged from the 1975 transplant crop, the total number of active osprey nests has risen to 72. New nests have been established on 14 especially built telephone pole nesting structures erected by McLain's unit—several in Barnegat Bay and the rest elsewhere along the New Jersey coast.

Analyses conducted by Stanley N. Weimeyer of the Service's Patuxent Wildlife Research Center on eggs submitted by New Jersey indicate that DDT levels are decreasing.

"It looks like the osprey is on the way back up," McLain says. "Mosquito spraying of long-term pesticides was stopped about six years ago, and research shows that DDT levels are going down. I think we may continue the egg transplant program for one or two more years, and then rely on the bird to do the rest."

### Peregrine Falcons Hacked

Hacking of the captive-bred peregrines in New Jersey is part of an experiment being conducted by Dr. Tom Cade of the Peregrine Fund at Cornell University. Birds are being released in Colorado, Massachusetts, New York, New Hampshire, Pennsylvania, and Maryland, as well as New Jersey, primarily in an effort to reintroduce the falcon as a nesting species east of the Mississippi, where it has not reproduced successfully in the last 25 years. (See the July 1976 issue of the BULLETIN.)

Last year, seven birds were fledged off in New Jersey and twelve have been hacked this year from three hacking stations.

The first-year mortality for young peregrines is generally as high as 70 percent, and takes the survivors two to three years to sexually mature and join into nesting pairs. Consequently, it takes several years to reliably determine whether or not the peregrine falcon can be reestablished in a particular area. At the present time, two or possibly three falcons have been established at the hacking stations in New Jersey.

With the return of the first birds this year from the 1975-76 releases, McLain says "we feel the project is doing much better than expected."

### Other ES Programs

Cooperative research studies have been set up by McLain with universities for work on the bog turtle (*Clemmys muhlenbergi*), pine barrens tree frog (*Hyla andersonii*), timber rattlesnake (*Crotalus horridus*), corn snake (*Elaphe guttata*), pine snake (*Pituophis melanoleucus*), blue-spotted salamander (*Ambystoma laterale*), and

(continued on page 4)



## Threatened Status Proposed for Minnesota Wolf Population

Reclassification of the wolf (*Canis lupus*) population in Minnesota from Endangered to Threatened status has been proposed by the Service, along with the designation of northern areas of the State and Isle Royale National Park, Mich., as Critical Habitat for the wolf under the provisions of the Endangered Species Act of 1973 (F.R. 6/9/77).

Special regulations accompanying the change in classification would authorize the regulated control of wolves that prey upon lawfully present livestock and other domestic animals in certain areas of the State.

The Minnesota Department of Natural Resources had petitioned to have the State's estimated 1,200 wolves, the only significant population of the species remaining south of the Canadian border, removed from the list of Endangered and Threatened wildlife altogether. Some residents of the State have been concerned that the wolf—apparently increasing in numbers in some areas—has been ranging into settled areas.

Wolves have been completely protected since being listed as Endangered in 1967 under 1966 Endangered species legislation (which did not provide for a Threatened classification). But because of reported predation, many wolves have been illegally shot and trapped in recent years in the State.

The proposed rulemaking generally accepts recommendations set forth by the Eastern Timber Wolf Recovery Team (see the March 1977 issue of the BULLETIN) to manage the wolf according to five habitat zones in Minnesota. Zones 1, 2, and 3, totaling nearly 10,000 square miles of wilderness adjacent to the Canadian border and constituting the primary range of the wolf, have been proposed for designation as Critical Habitat. In zone 1, the wolf would remain completely protected. Wolves making significant depredations on domestic livestock in zones 2 and 3 could be taken by authorized agents. (Few wolves would be taken in these zones, however, because there is almost no livestock in this part of the State.)

In evaluating zone 4—a 21,000-square-mile settled area peripheral to the primary range of the wolf—the Service ruled against a recovery team recommendation that a limited hunting and trapping season be allowed for the taking of 100 wolves a year. Instead, the Service has proposed that the taking of wolves be done only by authorized Federal and State agents and only in response to specific, confirmed complaints of depredation on livestock or domestic animals. At present, Service officials see "no justification" for allowing the take of non-depredating

wolves. However, they have stated that this policy could change if future events warrant revision of the special regulations.

The Service feels the effect of the Zone 4 regulation it has proposed will be to control predation, reduce conflicts with human activities, and "create a more favorable public attitude that would be of overall benefit to the wolf." Similar controls would be exerted over any wolves that wander into the more populated zone 5 covering the western and southern portions of the State. However, wolves are not known to frequent this zone.

### Endangered Wolves

The proposed rulemaking would list all other gray wolf populations below the Canadian border as Endangered. These populations include about 40 wolves on Isle Royale National Park in Lake Superior, a few possibly remaining in northern Michigan and Wisconsin, a small group in the northern Rocky Mountains, and about 200 wolves in northern Mexico.

In view of the fact that so few wolves exist below the Canadian border, the Service proposes to simplify and update the system of classification under the Endangered Species Act by deleting all subspecific names and listing the wolves simply as *Canis lupus*. Comments on the proposal are due by August 8, 1977.

### New Jersey (continued from page 3)

tiger salamander (*Ambystoma tigrinum*). The unit is also doing research on two other raptors, the southern bald eagle (*Haliaeetus leucocephalus leucocephalus*) and Cooper's hawk (*Accipiter cooperi*).

Six species of whales and four species of sea turtles listed for Federal protection are being studied by a marine mammalogist and a herpetologist.

The New Jersey Division of Fish, Game and Shellfisheries has recently become the first State fish and game agency to receive funds from the National Audubon Society solely for Endangered species research. McLain says the \$1,500 grant would be matched with Federal Endangered Species grant-in-aid funds, providing \$4,500 for research on the State's endangered reptiles and amphibians.

### Nongame Studies

The islands and wetlands of New Jersey's estuaries are being inventoried for colonies of nesting terns, herons, gulls, black skimmers, and other

colonial nesting birds. The surveys are concerned with human interference on the estuarine environment, bird populations and nesting densities, and vegetational types. The completed studies will serve as management tools for advising the U.S. Army Corps of Engineers and other Federal and State



New Jersey Department of Environmental Protection photo  
A peregrine falcon hacked in 1975 has returned to tower nest near New Jersey's Barnegat Light

agencies with regard to permissible dredging and spoil disposal areas.

The Nongame Section has developed a mobile exhibit for schools and nature centers and a backyard bird program. It also reviews and issues all permits for collecting, bird banding, rehabilitation and other activities.

### Exotic Wildlife Section

Regulations have been revised so that the Exotic Wildlife Section now has permit authority over zoos, animal importers and exporters, circuses, animal holding areas, and private individuals for possessing exotic and dangerous pets. A conservation officer has been assigned fulltime, and he already has made several arrests for illegal possession of ocelots, bog turtles, wolves, lions, and other animals.

One case involved a man who had shot and stuffed one of the first peregrine falcons released in 1975. When seized, the stuffed bird still bore its leg bands and a small radio transmitter on its tail feathers used for tracking fledglings. Within the past month, this man has been successfully prosecuted.